



PATENT  
Customer No. 22,852  
Attorney Docket No. 05725.0827-00

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Veronique DOUIN et al.

Application No.: 09/759,165

Filed: January 16, 2001

For: COSMETIC COMPOSITION  
COMPRISING AN AMPHOTERIC  
STARCH AND A CATIONIC  
CONDITIONER, AND USES  
THEREOF

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)  
) Group Art Unit: 1617  
)  
) Examiner: Shengjun Wang  
)  
)  
) Confirmation No.: 9808  
)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

## DECLARATION UNDER 37 C.F.R. § 1.132

I, Veronique MAHE, do hereby make the following declaration:

1. I am a French citizen, residing at Vaux sur Seine, 78740.
2. I have been awarded a 3<sup>eme</sup> degree in Chemistry and Cosmetic from I.S.I.P.C.A.
3. I have been employed by L'ORÉAL since 2002, and I am presently a Laboratory Manager of the Hair Care Division at L'ORÉAL. During my employment at L'ORÉAL, I have been engaged in the in research and development regarding hair care.
4. I understand the rejections made in the Office Action dated May 31, 2005.

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5. Given my education and experience, particularly in the area of condition cosmetic compositions, I consider myself able to provide the following testimony based on experiments conducted by me or under my supervision.

### COMPARATIVE TESTS

#### 1. Amphoteric Starch + Polyquaternary Ammonium Polymer

##### Composition A (Inventive)

Potato starch modified with 2-chloroethylaminodipropionic acid neutralized with sodium hydroxide (Structure Solance from National Starch)	1.5% AM
Hexadimethrine chloride (Mexomere PO from CHIMEX)	0.5% AM
Water qs	100%

##### Composition A' (Comparative)

Nonionic starch	1.5% AM
Hexadimethrine chloride (Mexomere PO from CHIMEX)	0.5% AM
Water qs	100%

Inventive composition A (1g/2.7g hair) was applied to washed, rinsed, and dried locks of hair. It was left on the hair for two-minutes and was then rinsed off thoroughly with water. The same procedure as above was adopted with the comparative

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Composition A'. Static electricity was measured on each lock, with the results reported in the following table.

Formulae	Static Electricity (kV) mean	Standard Deviation
A	313.5	41.25
A'	580.35	78.59

Hair treated with a composition according to the invention had significantly ( $p=0.005$ ) less static electricity than hair treated with composition A' outside of the claimed invention, e.g., a nonionic starch.

## 2. Amphoteric Starch + Ammonium Surfactant

Composition B (Inventive)

Potato starch modified with 2-chloroethylaminodipropionic acid neutralized with sodium hydroxide (Structure Solance from National Starch)	1.5% AM
Cetyl trimethyl ammonium chloride (DEHYQUART A OR from COGINS)	0.5% AM
Water qs	100%

Composition B' (Comparative)

Nonionic starch	1.5% AM
Cetyl trimethyl ammonium chloride (DEHYQUART A OR from COGINS)	0.5% AM
Water qs	100%

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3. Amphoteric Starch + Cationic Silicone

Composition C (Inventive)

Potato starch modified with 2-chloroethylaminodipropionic acid neutralized with sodium hydroxide (Structure Solance from National Starch)	1.5% AM
Polydimethylsiloxane with aminoethyl iminobutyl groups (DC2-8299 from Dow Corning)	0.5% AM
Water qs	100%

Composition C' (Comparative)

Nonionic starch	1.5% AM
Polydimethylsiloxane with aminoethyl iminobutyl groups (DC2-8299 from Dow Corning)	0.5% AM
Water qs	100%

Inventive Composition C (1g/2.7g hair) was applied to washed, rinsed, and dried locks of hair. It was left on the hair for two-minutes and was then rinsed off thoroughly with water. The same procedure as above was adopted with the comparative Composition C'. The surface state of the hair was evaluated by measurement of the slip force, which corresponds to the hair smoothness.

In this test, a movable lock of hair, fixed on a slip bench, was drawn in a uniform horizontal rectilinear movement between two other locks. The force exerted to make the lock slip was measured using an electronic gage linked to a drive arm. Each series

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Six locks of bleached hair (2.7 g) were treated with inventive Composition B and six locks of bleached hair (2.7 g) were treated with comparative Composition B'. The strength to disentangle was measured for each lock with an automatic combining machine, which moved two combs through the lock from the top to the bottom. The strength to go through the locks was measured. This test was repeated thirty-two times, with a summary of the results reported in the following table.

	B	B'
Mean of Strength of Disentangling (in g)	5.08	6.64
Standard Deviation	0.63	0.64

Statistical analysis is realized with software SPSS 11.5.

As shown in the foregoing table, the strength of disentangling decreased (30%), indicating easier disentangling properties. This difference was statistically significant ( $p < 0.0001$  test per student). These results showed a marked improvement of the disentangling property in the ease of the hair treated with the composition according to the invention.

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of measurements consisted of six locks. The lower the slip force, the better the smoothness, with a summary of the results reported in the following table.

	Slip Force (in g)	Standard Deviation	
C	19.33	1.8	p=0.0005
C'	22.45	1.11	

The hair treated with inventive composition C had a lower slip force, indicating better smoothness properties than comparative composition C'.

6. As shown in the foregoing tests, the inclusion of an amphoteric starch to the compositions resulted in improved cosmetic properties as compared to a composition that incorporated a nonionic starch. For example, improvements included decreased static electricity, easier disentangling properties, and enhanced smoothness.

7. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 01.09.05

By:   
Veronique MAHE